Paper No. 22

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte WILLIAM A. CROSSLAND
AND MARTIN J. BIRCH

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Appeal No. 95-3285
Application 07/984,427[1]

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ON BRIEF

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Before THOMAS, KRASS, and FLEMING, Administrative Patent Judges.

THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellants have appealed to the Board from the examiner's final rejection of claims 1 to 5, 8 to 10 and 13 to 17, which constitute all the claims remaining in the application.

[1] Application for patent filed February 24, 1993. According to applicants, this application is filed under 35 U.S.C. § 371 of GB/91/01537 filed September 10, 1991.

Representative claim 1 is reproduced below:

1. A method of addressing a liquid crystal cell having a co-ordinate array of pixels, wherein data for refreshing the cell is compared with the data existing prior to refresh to determine those pixels which require to have their states changed, and wherein those pixels are accessed by developing a positive, or negative, electric potential difference across those pixels, according into which state they are to be changed, for a predetermined period of time before re-establishing a zero potential difference, whereby no pixel is consecutively accessed twice by the same polarity of potential difference.

The following references are relied on by the examiner:

Kawakami et al. (Kawakami)	4,062,626	Dec. 13, 1977
Kaneko (Japanese Kokai)[2]	2-217,893	Aug. 30, 1990

Claims 1 to 5, 8 to 10 and 13 to 17 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon Kaneko in view of Kawakami.

We refer to the briefs and the answers for the respective positions of the appellants and the examiner.

OPINION

We reverse the rejection of all claims on appeal.

According to Kaneko, the prior art arrangement in Figures 5 to 7 as discussed in this reference compares incoming data and current data for each address of the display for each refresh or

[2] Our understanding of this reference is based upon a translation provided the Scientific and Technical Information Center of the Patent and Trademark Office. A copy of the translation is enclosed with this decision.

rewriting operation. Each mismatch is recorded. However, the search operation also occurs through the entire address region of the mismatch memory to determine the lines to be changed. Thus, even this prior art approach in Kaneko indicates that each pixel is consecutively accessed twice by the same polarity of potential difference in contrast to that which is required at the end of independent claim 1 on appeal.

On the other hand, with respect to Kaneko's contribution to the art in his Figures 1 to 4, it is noted that the mismatch signals are generated for incoming or refresh data as compared to current data only on lines where data is to be displayed where a mismatch has been detected. Therefore, only those lines would be refreshed to indicate the changed data. However, appellants' position throughout the various briefs, in our view, is correct in that essentially some pixels will be consecutively accessed twice by the same polarity of potential difference in contrast to that which is required at the end of claim 1 on appeal for those lines of Kaneko's contribution where the mismatch has been detected. A four by six dot or pixel exemplary display in Figure 3 of Kaneko indicates that in Figure 3c the mismatch line memory has three of the four lines with mismatched data in them. This indicates that the state of some pixels or dots within those

three lines must be changed since Kaneko's contribution operates on a line by line basis. Therefore, it appears that appellants' basic position that in this situation if any single pixel within that whole line is identical with the equivalent single pixel or dot in the corresponding whole line of data existing prior to the change, then the writing of the whole line into the display will inevitably produce the result that such a single pixel will be accessed for a second consecutive time by the same polarity of potential difference. Since Kawakami is not concerned with any such comparisons or data refresh operations, this secondary reference fails to cure the deficiencies with respect to Kaneko as their combined teachings relate to the subject matter of independent claim 1 on appeal.

Furthermore, Kaneko's display appears to us to be discussed in terms of a general LCD-type display. Therefore, it cannot be said that it is polarity sensitive. Similarly, as noted by appellants at page 3 of the reply brief, Kawakami's display is also not polarity sensitive but, in our view, is amplitude voltage sensitive based upon the combined values of the bias and signal voltages according to the addressing scheme in each embodiment in Kawakami. Thus, there appears to be a complete absence among the combined teachings of the references as to any

polarity teachings that could be applicable to the positive or negative polarity recitations in each of the respective claims on appeal. This feature is recited in some manner in independent claims 3, 8 and 15 in terms of pixel state changes being the result of a different potential being applied to an individual pixel area where the different potential is either a predetermined amount above the potential of the front plane electrode or an equal amount below it.

As indicated earlier, Kaneko's liquid crystal display is spoken of in that reference only in general terms. On the other hand, Kawakami's display per se is shown in corresponding figures of Figures 12 and 13. The showings in and the corresponding discussions of these figures indicate that each liquid crystal cell or pixel essentially has its own discrete front and back panel electrodes. Thus, there could be no corresponding structural display among the references relied upon to meet the limitations of independent claims 3, 8 and 15 that there is one front plane electrode with respective corresponding electrode pads on the other side of the display medium to comprise the claimed coordinate array.

Finally, we note that the references relied upon and the examiner do not appear to address the feature recited in each of independent claims 3, 8 and 15 on appeal where any given pixel state to be changed is taken from a potential equal to that of the front plane electrode to a different potential for a predetermined period of time before restoring it to its former potential equal to that of the front plane electrode.

In view of the foregoing, the decision of the examiner rejecting the claims on appeal under 35 U.S.C. § 103 is reversed.

REVERSED

JAMES D. THOMAS Administrative Patent Judge	)
ERROL A. KRASS Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
MICHAEL R. FLEMING Administrative Patent Judge	)

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